2.8

Community Solar

Traditionally, installing **photovoltaic** (PV) systems has been examined in the context of a single project with one owner. With the emergence of a "community solar" project trend, a single large PV system is installed, usually in coordination with the local municipal utility. Community members either claim proportional ownership in the system or subscribe to representational "shares." Given the benefits associated with economies of scale, community projects can reduce the cost of PV systems on a per-watt basis. These projects can also expand access to solar electricity because individuals who don't own property or whose property doesn't receive adequate sunlight to make a PV system practical can still invest in a community solar project. This type of program can enable renters and condominium owners (among others) to have a stake in a tangible, local PV installation.

Participants in a community solar program can receive **virtual net-metering** benefits in exchange for their financial contribution to a solar project. This contribution can take the form of an up-front purchase of PV panels or a monthly charge on the customer's utility bill. As the community solar system generates electricity—which is typically fed directly into the grid—the participants get a utility-bill credit or some other agreed-on form of compensation for the electricity their share of the system produces. In certain cases, utilities guarantee a minimum amount of production under **virtual net metering** to encourage participation in the project. There could also be alternatives to virtual net metering, such as a separate payment from the utility for the electricity generated by the community solar project.

For the most part, the tax credits normally associated with solar installations are not available to participants in a community solar program. Some encouraging examples are found at the state level, however, where certain incentives are made available to members of a community solar project. In Washington State, participants in a community solar program are eligible to receive **production-based incentives** (PBIs) of up to $5,000 per participant per year through 2020. In Utah, community solar participants can take the 25% state income tax credit. As interest in community solar programs grows, the additional incentives available to single-owner solar installations will also, ideally, be available to participants in community solar projects.

Depending on how a community solar program is structured, certain issues arising from federal and state securities laws could be relevant. If an actual ownership stake in a community solar project is sold to participants with the expectation of some financial return on this investment, the project might need to be registered as a security. Typically, community leaders would prefer to avoid this process, which is why community solar projects are often legally owned by the utility instead of by the program participants themselves. In any case, have an attorney review the proposed structure before launching a community solar program.

If a community solar program is not feasible in a community, consider encouraging solar in the local utility's **green pricing** program. Green pricing programs allow utility customers to pay a premium on their utility bill to support renewable energy generation. This is another attractive option for residents and businesses that are unable to install solar on their own properties.

BENEFITS

Community solar projects create an opportunity to invest in **solar energy** for many people who can't currently install a PV system on their own rooftop. Virtual net metering enables participants to receive utility-bill credits or some other agreed-on form of compensation for the electricity produced by their share of the system. Participation levels in a community solar project can be tailored to meet different needs and budgets.

Implementation Tips and Options

- Survey the sectors of the community that would have the most interest in participating in a project to gauge interest, willingness to pay, and expectations of benefits. Learn whether prospective participants are interested in a positive financial return or if they're willing to support the project regardless of whether the economics are in their favor.
- Make sure that the utility is engaged from the start, because it's a primary participant in the project. Municipal utilities often have greater flexibility to pursue unique projects. Determine whether the utility will own and maintain the system or if another model would work better in the community.
- Determine what financial incentives are available (or could be made available) to participants in the program, including the ability to net meter virtually.
- Design a program that includes community input so that there's demand once it's launched.
- Decide whether the project will simply be located where physical conditions (solar resource, grid connection) are optimal or if public awareness and visibility also play a factor in siting the PV system.
- Have an attorney review the proposed program structure with an eye toward any potential securities issues. If not structured properly, a community solar project could be considered a financial investment opportunity which might make it subject to state and federal Securities regulations. Care should be taken to avoid this as it implies significant reporting requirements and potential liability for the project sponsors.

Examples

Sacramento, California: Subscribing to "Shares" in a Utility-Scale Photovoltaic System

In July 2008, the Sacramento Municipal Utility District (SMUD) launched an innovative green pricing program called SolarShares. The program, the first of its kind, allows customers to purchase a portion of the solar energy generated by a 1-megawatt PV installation in Sacramento County. SMUD purchases the output of the third-party-owned system and resells it to SolarShares customers for a fixed monthly fee based on customer electricity usage and the size of the block they

choose to purchase. Customers can buy the output of 0.5-kilowatt increments up to 4 kilowatts. Participants currently spend an extra $4 to $50 on their electric bill each month, and SMUD credits the value of that generation to each participant's energy bill through virtual net metering. The program sold out the initial 1-megawatt PV system in the first 6 months, and enrollment has remained stable at about 700 participants. The following Web site has details on the district's SolarShares program: www.smud.org/en/community-environment/solar/pages/solarshares.aspx.

St. George, Utah: Setting the SunSmart Community Solar Program in Place

St. George's Energy Services Department (a municipal utility) and Dixie Escalante (a neighboring electric cooperative) together inaugurated a 100-kilowatt community PV system. With new funds available from the American Reinvestment and Recovery Act of 2009, the system is slated to more than double with the addition of another 150 kilowatts. The PV system will be expanded in 100-kilowatt increments based on demand.

Residents of the city of St. George and surrounding areas served by Dixie Escalante can purchase units in the SunSmart program in 0.5- and 1-kilowatt increments for $3,000 and $6,000, respectively, up to 4 kilowatts per customer. The participants own their shares for 19 years, at which point the city will determine whether to extend the program and, if so, whether any equipment repairs are necessary. Any repair costs will be passed on to program participants who renew their participation. Each month, customers receive kilowatt-hour credits on their utility bills, representing the amount of electricity generated by their share of the PV system. The credit is calculated at the retail rate of electricity (i.e., true net metering). The RECs associated with the project go to the city utility.

One unique aspect of the SunSmart program is that participants can take advantage of the 25% state tax credit available for PV along with St. George's solar rebate of $2/watt up to 3 kilowatts (participants cannot, however, receive the **federal investment tax credit**). The interesting thing about this tax policy, reportedly the first of its kind in the country, is that the tax credit is for a PV project that the program participant does not fully own and is not located on his or her private property. As such, participants who move to another home in St. George can either transfer their share to their new address or sell it with the old home. For more information on the program, see http://sgsunsmart.com/index.htm.

Visit www.solaramericacommunities.energy.gov for more inspiring examples from communities across the United States.

Additional References and Resources

PUBLICATIONS

Community Renewables: Model Program Rules

Interstate Renewable Energy Council, November 2010

This guide provides an overview of best practices in facilitating coinvestment in local renewable power facilities and outlines model community solar program rules.

Date, author, description stay the same.

Report: http://irecusa.org/wp-content/uploads/2010/11/IREC-Community-Renewables-Report-11-16-10_FINAL.pdf

Investing in Solar as a Community

Dana Hall, James Rose, and Laurel Varnado for Solar Today, March 2010

Magazine article: www.solartoday-digital.org/solartoday/201003?pg=31 - pg31

The Northwest Community Solar Guide

Bonneville Environmental Foundation, Northwest Sustainable Energy for Economic Development, 2009

This comprehensive guide covers all aspects of implementing a community solar project. It focuses on the Northwest, but has in-depth case studies, project economics, and information on various state and federal incentives.

Report: www.nwseed.org/documents/NW Community Solar Guide.pdf

Creating and Implementing Your Community Solar Plan

Solar Minnesota & the Minnesota Renewable Energy Society

This comprehensive solar manual describes a step-by-step analysis of the process of developing a community solar project. It has several Minnesota case studies, but the guide is useful for anyone interested in a community solar project.

Report: www.state.mn.us/mn/externalDocs/Commerce/Community_Solar_Plan_032509032652_CommunitySolarGuide.pdf

A Guide to Community Solar: Utility, Private, and Non-profit Project Development

Prepared for the National Renewable Energy Laboratory, November 2010

This guide is designed as a resource for those who want to develop community solar projects, from community organizers or solar energy advocates to government officials or utility managers. By exploring the range of incentives and policies while providing examples of operational community solar projects, this guide will help communities to plan and implement successful local energy projects. In addition, by highlighting some of the policy best practices, this guide suggests changes in the regulatory landscape that could significantly boost community solar installations across the country.

Report: http://solaramericacommunities.energy.gov/pdfs/A%20Guide%20to%20Community%20Solar.pdf